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| 09/705,675      | 11/03/2000  | Adam Louis Buchsbaum | 2000-0542           | 6271             |

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EXAMINER

CHANG, JUNGWON

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2154

DATE MAILED: 01/21/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

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**Office Action Summary**

Application No.

09/705,675

Applicant(s)

BUCHSBAUM ET AL.

Examiner

Jungwon Chang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 23 January 2002.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All   b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 6.                      6) ☐ Other: \_\_\_\_\_

### DETAILED ACTION

1. Claims 1-20 are presented for examination.

#### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

- a. The following terms lack proper antecedent basis:

- i. the plurality of client IP addresses – claim 2, line 1;
- ii. the common longest prefix – claim 8, line 5;

- a. The claim language in the following claims is not clearly understood:

- i. as to claim 1, line 3, it is not clear who is receiving a plurality of IP addresses;
- ii. as to claim 2, line 1, it is uncertain whether the plurality of client IP addresses refers to a plurality of IP addresses in claim 1, line 3;

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

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obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1-11, 13-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altschuler et al. (US 6,195,622 B1), hereinafter referred to as Altschuler, in view of Rochberger (US 6,396,842 B1), hereinafter referred to as Rochberger.

6. As to claim 1, Altschuler discloses the invention substantially as claimed, including an on-line method of classifying IP addresses into related clusters within a distributed information network (fig. 35; col. 12, lines 13-22; col. 9, line 57 – col. 10, line 7), the method comprising the steps of:

receiving a plurality of IP addresses (106, 108, fig. 1; col. 8, lines 17-31; col. 22, lines 40-45 and 56-61);

processing the plurality of IP addresses according to an algorithm classification process (col. 13, line 23 – col. 14, line 4); and

classifying the plurality of IP addresses into related clusters (fig. 35, col. 12, lines 13-22; col. 9, line 57 – col. 10, line 7).

7. Altschuler does not specifically disclose radix encoded trie. However, Rochberger discloses radix encoded trie (col. 1, lines 9-11; col. 8, lines 31-40; col. 10, lines 34-53). It would have been obvious to one of ordinary skill in the art at the time the invention was

made to combine the teachings of Altschuler and Rochberger because Rochberger's radix trie would improve the efficiency of data search by allowing a binary tree to enable searching for exact key matches.

8. As to claims 2 and 3, Altschuler discloses the plurality of client IP addresses are received from on or more network routers (fig. 1; col. 8, lines 17-31; col. 22, lines 40-45 and 56-61).

9. As to claims 4, Altschuler discloses the distributed information network is the WWW (506, fig. 5; col. 1, lines 17-20).

10. As to claims 5 and 8, they are rejected for the same reasons set forth in claim 1 above. Altschuler does not specifically disclose performing longest prefix matching on each claimed IP address. However, Rochberger discloses performing longest prefix matching (col. 8, lines 31-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Altschuler and Rochberger because Rochberger's longest prefix matching would improve the efficiency of data search by allowing a binary tree to enable searching for exact key matches.

11. As to claim 6, Altschuler discloses the client IP addresses are extracted in real-time from a network server (fig. 1; col. 8, lines 13-31).

12. As to claim 10, Altschuler discloses the network servers are at least one of proxy servers, cache servers, content distribution servers and mirror servers (604, 630, 635, fig. 6; col. 18, line 63 – col. 19, line 27).

13. As to claim 17, it is rejected for the same reasons set forth in claim 1 above. In addition, Altschuler discloses computer-readable medium containing executable instructions (col. 18, lines 29-31 and 45-50).

14. As to claim 7, it is rejected for the same reasons set forth in claim 4 above.

15. As to claim 9, it is rejected for the same reasons set forth in claim 2 above.

16. As to claims 11 and 18, they are rejected for the same reasons set forth in claim 3 above.

17. As to claims 13-16 and 20, they are rejected for the same reasons set forth in claim 1 above.

18. Claims 12 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Altschuler et al. (US 6,195,622 B1) and Rochberger (US 6,396,842 B1), as applied to claims 1-11, 13-18 and 20 above, further in view of Block et al. (US 6,192,417 B1), hereinafter referred to as Rochberger.

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19. As to claims 12 and 19, Altschuler and Rochberger do not specifically disclose server cluster. However, Block discloses server cluster (fig. 2; col. 4, lines 36-64; col. 10, lines 15-40). It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings of Altschuler, Rochberger and Block because Block's server clustering would improve the scalability and load-balancing by minimizing delay and packet loss by assigning all cluster members the same IP address whereby all cluster members receiving all messages.

### ***Conclusion***

20. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

Eatherton et al, patent 6,560,610 B1, Brodnik et al, patent 6,266,706 B1, Srinivasan et al, "Faster IP Lookups using Controlled Prefix Expansion", November 5, 1997, Washington University, pp. 1-21, disclose data structure using a tree bitmap and method for rapid classification of data in a database.

Adelman et al, patent 6,006,259, Beck et al, patent 6,549,538 B1, Gervais et al, patent 5,856,974 disclose method and apparatus for an Internet Protocol Network clustering system.

21. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jungwon Chang whose telephone number is (703)305-

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9669. The examiner can normally be reached on 9:30-6:00 (Monday-Friday).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John A Follansbee can be reached on (703)305-8498. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)305-9669.

Jungwon Chang  
January 9, 2004



JOHN FOLLANSBEE  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100